AMENDMENTS IN THE CLAIMS

1-4. (canceled)

5. (currently amended) A spindle, comprising:

a shaft;

a sleeve coaxial with the shaft;

a first gap formed between the sleeve and the shaft for facilitating rotation therebetween;

a hub bound to the sleeve;

a second gap located between the hub and the sleeve, the second gap being larger than the first gap; wherein

the hub is secured to a rotor magnet which is adjacent to a stator, such that the second gap reduces magnetic flux leakage into the sleeve and a substantially negligible amount of flux crosses the first gap into the shaft; and wherein the second gap is filled with epoxy.

6. (currently amended) A spindle, comprising:

a shaft;

a sleeve coaxial with the shaft;

a first gap formed between the sleeve and the shaft for facilitating rotation therebetween;

a hub bound to the sleeve;

a second gap located between the hub and the sleeve, the second gap being larger than the first gap; wherein

the hub is secured to a rotor magnet which is adjacent to a stator, such that the second gap reduces magnetic flux leakage into the sleeve and a substantially negligible amount of flux crosses the first gap into the shaft; and wherein

the second gap is in the range of 200 to 300 microns.

7. (previously presented) A precision spindle assembly, comprising in combination:

a stator;

a spindle hub having a rotor magnet mounted thereto that is rotatable relative to the stator; wherein the spindle hub comprises:

a ferromagnetic stationary shaft;

a rotatable ferromagnetic sleeve coaxial with the shaft;

a fluid bearing gap formed between the sleeve and the shaft for facilitating rotation therebetween;

a ferromagnetic hub bound to the sleeve;

a large gap located between the hub and the sleeve, wherein the large gap is larger than the fluid bearing gap and is in the range of 200 to 300 microns; and

a substantially non-permeable material filling the large gap in order to reduce magnetic flux leakage into the sleeve such that a substantially negligible amount of flux crosses the fluid bearing gap into the shaft.

8. (original) The precision spindle assembly of claim 7, further comprising a pattern of shallow groove features incorporated on one of the shaft and the sleeve to facilitate hydrodynamic generation of a fluid film of high pressure and stiffness.

9-14. (canceled)

15. (previously presented) A method of insulating a precision spindle assembly against magnetic flux, comprising the steps of:

(a) providing a stator, and a spindle assembly with a rotor magnet, a shaft, a sleeve, a fluid bearing gap between the sleeve and the shaft, a hub on one of the shaft and the sleeve, and a gap between the hub and the sleeve;

(b) rotating the rotor magnet relative to the stator to induce a magnetic field;

(c) reducing magnetic flux leakage into the sleeve with the gap such that a substantially negligible amount of flux crosses the fluid bearing gap into the shaft; and wherein

step (a) comprises filling the gap with an epoxy.

16. (previously presented) A method of insulating a precision spindle assembly against magnetic flux, comprising the steps of:

(a) providing a stator, and a spindle assembly with a rotor magnet, a shaft, a sleeve, a fluid bearing gap between the sleeve and the shaft, a hub on one of the shaft and the sleeve, and a gap between the hub and the sleeve;

(b) rotating the rotor magnet relative to the stator to induce a magnetic field;

(c) reducing magnetic flux leakage into the sleeve with the gap such that a substantially negligible amount of flux crosses the fluid bearing gap into the shaft; and wherein

step (a) comprises forming the gap in the range of 200 to 300 microns.